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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,031	09/23/2003	Masaya Okita	Soyu C-6B	1821
23474	7590	09/09/2005	EXAMINER	
FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			PIZIALI, JEFFREY J	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/669,031	Applicant(s) OKITA, MASAYA	
	Examiner Jeff Piziali	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/115,018.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/23/03 & 4/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/115,018, filed on 14 July 1998.

2. Applicant states that this application is a continuation or divisional application of the prior-filed application. A continuation or divisional application cannot include new matter. Applicant is required to change the relationship (continuation or divisional application) to continuation-in-part because this application contains the following matter not disclosed in the prior-filed application:

The original disclosure of the prior-filed application, **Application No. 09/801,098**, does not support the showing of the newly drawn applied voltage, absolute value of applied voltage, and optical transmittance waveforms, as presently illustrated in Figure 2. The presently illustrated Figure 2 is entirely different in appearance from the originally presented Figure 2 (as originally submitted in **Application No. 09/801,098**), introducing a completely new (to the present disclosure) method of driving a conventional nematic liquid crystal.

The applicant defends this alteration to Figure 2 in the "Comments Before First Office Action" (submitted on 23 September 2003) by saying, *"Figure 2 now corresponds to Figure 2 in the originally filed parent application Serial No. 09/115,018, filed July 14, 1998"* (see Page 2 of the "Comments Before First Office Action"). However, Section 201.07 of the MPEP states,

"The disclosure presented in the continuation must be the same as that of the original application; i.e., the continuation should not include anything which would constitute new matter if inserted in the original application." In this case, because the instant application is seeking to be a Continuation Application of **Application No. 09/801,098, Application No. 09/801,098 (not Application No. 09/115,018)** constitutes *"the original application."* Moreover, it was explained in the Final Office Action for **Application No. 09/801,098**, that such an alteration to Figure 2 introduces new matter into the drawings (see the bottom of Page 2 of the Final Office Action mailed 21 April 2003).

Drawings

3. The presently illustrated version of Figure 2, filed on 23 September 2003, is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The original disclosure of the prior-filed application, Application No. 09/801,098, does not support the showing of the newly drawn applied voltage, absolute value of applied voltage, and optical transmittance waveforms, as presently illustrated in Figure 2. The presently illustrated Figure 2 is entirely different in appearance from the originally presented Figure 2 (as originally submitted in Application No. 09/801,098), introducing a completely new (to the present disclosure) method of driving a conventional nematic liquid crystal.

Applicant is required to cancel the new matter in the reply to this Office Action.

Specification

4. The disclosure is objected to because of the following informalities:

Page 2, Line 10 of the Specification should be changed from "cost for an increased man-hour" to "cost for increased man-hours."

Page 2, Line 13 of the Specification should be changed from "is their optical transmittance as low as" to "is their optical transmittance is as low as."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 14, 17, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 14 recites, "a nematic liquid crystal that is free from an optical effect of hysteresis and has no metastable states" (see lines 2-4). However, the specification does not anywhere disclose or discuss the subject matter of "metastable states."

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Claim 17 recites, "the second time period has a greater duration than the first time period" (see lines 2-4). However, the specification does not disclose the subject matter of any one time period having a greater (or shorter) duration than any other time period.

Claim 18 recites, "a TFT nematic liquid crystal" (see line 3). However the specification, while teaching a "TFT liquid crystal" (see Paragraph 35), does not anywhere disclose the subject matter of a TFT nematic liquid crystal.

7. Claims 15, 16, and 19 are rejected under 35 U.S.C. 112, first paragraph, as being dependent upon rejected base claims.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are between the "unit periods" and the "units periods" recited in lines 10-11. One having ordinary skill in the art at the time of invention would be unable to determine if the "unit periods" and the "units periods" are one and the same, or separate and distinct from one another.

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10. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. The term "simple matrix liquid crystal panel" in claim 12 is a relative term which renders the claim indefinite. The term "simple" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One having ordinary skill in the art at the time of invention would be unable to determine the exact extent of simplicity in structure and operation that a matrix liquid crystal panel must exhibit in order to qualify as a "simple matrix liquid crystal panel."

12. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are between driving the nematic liquid crystal such that "the second time period has a greater duration than the first time period, and. . . "the first time period and the second time period having the same length of time during each said interval." One having ordinary skill in the art at the time of invention would be unable to determine how the first and second time periods can simultaneously be of different durations, but yet have the same length of time.

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13. Claims 2-7 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-19 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by the applicant's own admission of prior art (see Figs. 2 & 3; Paragraphs 2-11; Paragraphs 19-20; Paragraphs 26-28; and Paragraphs 33-35 -- wherein Fig. 2 refers to the illustration as originally submitted in Application No. 09/801,098).

16. Claims 1-14 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al. (US 5,594,464).

Regarding claim 1, Tanaka discloses a method for driving a nematic liquid crystal in a liquid crystal display device comprising a nematic crystal (see the Abstract) having no prior hysteresis (see Fig.2; t_{01} , t_{11} , t_{13}), two electrodes [Fig. 28; C & S] sandwiching the nematic liquid crystal (see Column 21, Lines 10-41) and two polarizing plates sandwiching the two electrodes

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(see Column 10, Lines 19-22), comprising the steps of: applying a first voltage [Fig. 2, 202] corresponding to image data and applying a second voltage [Fig.2; 201] of a predetermined value independent from the image data between the two electrodes within each of unit periods [Fig.2; t'_1, t_0, t_1], said units periods repeating periodically, said first voltage being applied in a first time zone [i.e. one signal period] of each said unit period and said second voltage being applied in a second separate time zone [Fig.2; $t'_1-t_{01}, t_0-t_{03}, t_1-t_{13}$] in the same unit period, wherein the proportion between the first time zone and the second time zone in each said unit period is constant in all said unit periods (see Column 10, Lines 26-67).

Regarding claim 2, Tanaka discloses the first voltage applied to the two electrodes is inverted in polarity within each first time zone to average the voltage values applied as the first voltage to substantially zero (see Fig. 2; Column 10, Lines 52-59).

Regarding claim 3, Tanaka discloses the first voltage is applied in the first time zone of each said unit period to display an image on a panel of said liquid crystal display device, and the second voltage is applied in the second time zone of the same unit period to erase the image on the panel during the second time zone (see Fig. 2; Column 10, Lines 26-67).

Regarding claim 4, Tanaka discloses erasure of the image displayed on the panel is effected by driving the liquid crystal to display black on the panel (see Figure 2; Column 10, Lines 35-38).

Regarding claim 5, Tanaka discloses the liquid crystal is driven to a state corresponding to the image data by the first voltage applied in the first time zone of each said unit period, and the nematic liquid crystal is driven to return to a predetermined state by the second voltage applied in the second time zone of the same unit period (see Figure 2; Column 10, Lines 26-67).

Regarding claim 6, this claim is rejected by the reasoning applied in the above rejection of claim 4.

Regarding claim 7, this claim is rejected by the reasoning applied in the above rejection of claim 4; furthermore, Tanaka discloses the second voltage is zero volts (see Fig. 2; Column 10, Lines 52-59).

Regarding claim 8, this claim is rejected by the reasoning applied in the above rejection of claim 1; furthermore, Tanaka discloses a TFT liquid crystal panel (see Column 1, Lines 10-41).

Regarding claim 9, this claim is rejected by the reasoning applied in the above rejection of claim 2.

Regarding claim 10, this claim is rejected by the reasoning applied in the above rejection of claim 4.

Regarding claim 11, this claim is rejected by the reasoning applied in the above rejection of claim 1; furthermore, Tanaka discloses a matrix liquid crystal panel (see Column 1, Lines 25-30).

Regarding claim 12, this claim is rejected by the reasoning applied in the above rejection of claim 11; furthermore, Tanaka discloses a simple matrix liquid crystal panel (see Column 1, Lines 25-30).

Regarding claim 13, this claim is rejected by the reasoning applied in the above rejection of claim 8.

Regarding claim 14, this claim is rejected by the reasoning applied in the above rejection of claims 1, 3, and 7; furthermore, Tanaka discloses a nematic liquid crystal that is free from an optical effect of hysteresis and has no metastable states (see Figure 2; Column 10, Lines 26-67).

Regarding claim 17, Tanaka discloses the second time period has a greater duration than the first time period, and the first and second time periods, which do not overlap, combined equal the entirety for each of the intervals, the first time period and the second time period having the same length of time during each said interval, and the intervals each having the same length of time (see Figure 2; Column 10, Lines 26-67).

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Regarding claim 18, Tanaka discloses a TFT nematic liquid crystal device (see Column 1, Lines 10-41).

Regarding claim 19, this claim is rejected by the reasoning applied in the above rejection of claim 1.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (US 5,594,464).

Regarding claim 15, Tanaka does not expressly disclose each of the intervals is less than or equal to 8 milliseconds (see Figure 2; Column 10, Lines 52-59). However, the examiner takes official notice that it was commonly known and understood in art at the time of invention to set such intervals to 8 milliseconds or less. Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to set Tanaka's intervals to less than or equal to 8 milliseconds, so as to provide quick enough response times than display viewing is made comfortable for users.

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Regarding claim 16, this claim is rejected by the reasoning applied in the above rejection of claim 2.

Response to Arguments

19. Applicant's arguments filed 23 September 2003 have been fully considered but they are not persuasive. The applicant contends the cited prior art of Tanaka et al. (US 5,594,464) fails to disclose a nematic crystal having no prior hysteresis. However, the examiner respectfully disagrees. Tanaka explicitly teaches a nematic crystal (see Column 1, Lines 10-41) having no prior hysteresis [Fig.2; t_{01} , t_{11} , t_{13}] (see Column 10, Lines 26-67). By such reasoning, rejection of the claims is deemed proper and thereby maintained.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

1 September 2005



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